

CLAIMSWhat is claimed is:

- 5 1. An aqueous coating composition comprising
(a) 10 to 60 wt % of an aqueous dispersion comprising water and at
least one water-dilutable binders selected from the group
consisting of polymethacrylic, polyacrylic, polyester,
polyurethane, hybride polyacrylic/polyester or
10 polyacrylic/polyurethane, epoxy modified binders, with linear,
branched or star structure and mixtures thereof, the amount of
said water constituting at least 15 wt% based on the total weight
of said component
(b) 5 to 40 wt% of at least one water-dispersible polyisocyanates or
15 mixtures of water-dispersible and water-emulsifiable
polyisocyanates, blocked or unblocked,
(c) 5 to 70 wt% of filler material,
(d) 1 to 40 wt% of a ground polymer material,
(e) 0 to 15 wt% of organic co-solvents,
20 (f) 0.01 to 15 wt% of additives, pigments and fillers, and
(g) 3 to 30 wt% of water.
2. The composition according to claim 1 wherein one or more binders
selected from the group consisting of polyacrylics, polymethacrylics ,
25 polyesters, polyurethanes and polymers with star structure are used as
component (a).
3. The composition according to claim 1 wherein component (b) is
selected from the group consisting of isocyanurates, biurets, uretdions and
30 allofanates of 1,6-hexane diisocyanate.

4. The composition according to claim 1 wherein component (c) comprises 10 to 60 wt. % of the coating composition.
- 5 6. The composition according to claim 4 wherein component (c) is aluminium hydroxide.
7. The composition according to claim 1 wherein component d) comprises 2 to 30 wt.% polymethyl methacrylate containing filler.
- 10 8. The composition according to claim 6 wherein component d) consists of about 40 wt. % polymethyl methacrylate, and 60 wt. % of aluminum hydroxide, colorants, and other additives at low levels.
- 15 9. The composition according to claim 1 wherein the amount of the water, component (g), is from 5 to 20 wt.%.
10. The composition according to claim 1, wherein component a) is directly manufactured from the emulsion polymerization of the binder monomers or co-monomers.
- 20 11. A process for coating a substrate which comprises applying a one-coat layer on a substrate within a dry thickness layer range from 15 to 25 mils (0.381 to 0.635 mm) using a coating composition according to claim 1 and curing said coating.
- 25 12. A process for forming a multi-layer coating which comprises applying several coating layers to a substrate within a dry thickness layer range from 15 to 25 mils (0.381 to 0.635 mm) for each layer using a coating composition according to claim 1 and curing said coating layers.

13. A process for forming a coating layer as one-coating layer of a multi-layer coating which comprises applying to a substrate a coating layer selected from the group consisting of externally pigmented top coat layer and transparent clear coat layer said coating layer being applied from the
- 5 coating composition according to claim 1 within a dry thickness layer range from 15 to 25 mils (0.381 to 0.635 mm) and curing said coating layer.
14. A substrate coated with the coating composition according to claim 1 and then cured.